IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Schmitt, et al.
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For	:	FLOWCHART PROGRAMMING FOR INDUSTRIAL CONTROLLERS, IN PARTICULAR MOTION CONTROLLERS
Examiner	:	To be assigned
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PRELIMINARY AMENDMENT

Sir:

Preliminary to examination on the merits, please amend the application as follows:

IN THE SPECIFICATION:

On page 1, before paragraph [0001.], insert: --Field of the Invention--.

On page 1, before paragraph [0002.], insert: --Background--.

On page 2, before paragraph [0008.], insert: --Summary of the Invention--.

On page 8, before paragraph [0031.], insert: --Brief Description of the Figures--.

On page 9, before paragraph [0032.], insert: --Detailed Description of the Invention--.

IN THE CLAIMS:

Cancel claims 1-17 without prejudice.

Add new claims 18 - 34.

18. (New) A method for programming motion controllers, wherein graphical elements, comprising control structures and function blocks, are linked using a graphical editor to form a motion control flowchart represented on a display device, comprising the steps of: providing a plurality of structured text subprograms; and converting the structured text subprograms to a plurality of corresponding graphical elements comprising function interfaces corresponding to the respective structured text subprogram.

19. (New) The method according to claim 18, further comprising the steps of:

a) generating a structured textual language from the flowchart,

b) converting the structural textual language in a processor-independent pseudo-code,

c) loading the processor-independent pseudo-code into the controller,

d) converting the processor-independent pseudo-code into executable processor code.

20. (New) The method according to claim 18, wherein programming language commands are provided in the flowchart editor as a function of the associated hardware configuration.

21. (New) The method according to claim 18, wherein the graphical elements are provided as programming language elements of the motion control flowchart.

22. (New) The method according to claim 18, wherein the structured text subprograms comprise structured text according to IEC 6-1131.

23. (New) The method according to claim 22, further comprising the step of switching between three forms of representation, the forms selected from the set consisting of structured textual language, contact plan and function plan.

24. (New) The method according to claim 18, wherein at least one programming language command selected from the group consisting of loop and parallel branch programming language commands is provided in motion control flowchart notation.

25. (New) The method according to claim 24, wherein a parallel branch is provided and individual commands are initiated in a given interpolator cycle within respective parallel branches.

26. (New) The method according to claim 18, wherein parameters are set for the function blocks via a mask input in motion control flowchart notation.

27. (New) The method according to claim 18, comprising the further steps of combining function blocks into modules, and representing the modules as function blocks in motion control flowchart notation.

28. (New) The method according to claim 27, modules are interleaved in motion control flowchart notation.

29. (New) The method according to claim 18, further comprising the step of assigning, in motion control flowchart notation, multiple variables in function blocks.

30. (New) The method according to claim 18, wherein function blocks that represent functions requiring a period of time, comprise step-enabling conditions in motion control flowchart notation.

31. (New) The method according to claim 18, wherein the graphic elements of the flowchart are positioned automatically.

32. (New) The method according to claim 18, wherein the graphic elements of the flowchart are linked together automatically.

33. (New) The method according to claim 18, wherein the flowchart is displayed in a form comprising one form selected from the group consisting of an enlarged form and a reduced form:

34. (New) The method according to claim 18, wherein recompiling in motion control flowchart notation is possible by means of marks in the textual language.

REMARKS

Upon entry of this Preliminary Amendment, claims 1 - 17 have been canceled and claims 18 - 34 are pending. No new matter has been added.

The Amendment is voluntary and made for the purpose of more distinctly pointing out and claiming the subject matter of the invention. The Amendment is not made for purposes of patentability, nor does it narrow the scope of what is claimed.

Authorization is given to charge Deposit Account No. 19-2179 for any fee due in connection with this communication.

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Respectfully submitted,

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